

CLAIMS

1. A method of accessing the testing means in a Field Programmable Gate Array ("FPGA") comprised of a plurality of functional groups ("FGs")

5 comprising:

inputting a function netlist defining a user circuit;
compiling said function netlist;
generating a logic Built-In Self Test ("BIST") netlist.

10 2. The method of claim 1 further comprising extracting scan chain from said logic BIST netlist and predicting an expected syndrome value.

3. The method of claim 2 further comprising applying said scan chain to the FPGA and obtaining actual syndrome values.

15 4. The method of claim 3 further comprising:
comparing said expected syndrome values with said actual syndrome values; and

20 flagging error if said expected values are different than said actual values.

5. A method of accessing the testing means in a FPGA comprised of a plurality of functional groups comprising:

inputting a function netlist defining a user circuit;

optimizing said user circuit;

5 placing user cells into said FPGA functional unit;

defining routing structure to interconnect said functional units to implement said user circuit;

generating a programming bitstream;

programming said FPGA functional unit with said bitstream;

10 generating a BIST netlist;

extracting scan chain from said BIST netlist and predicting an expected syndrome value;

apply scan chain to FPGA and obtaining the actual syndrome values;

15 comparing said expected syndrome values with said actual syndrome values; and

flagging error if said expected values are different than said actual values.

6. An apparatus for accessing the testing resources in a programmed
20 FPGA employing internal scan chains comprising:

means for generating a BIST netlist;

means for extracting a scan chain from said BIST netlist and
predicting an expected syndrome value;

means for applying said scan chain to FPGA and obtaining actual
syndrome values; and

5 means for comparing said expected syndrome values with said actual
syndrome values.

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